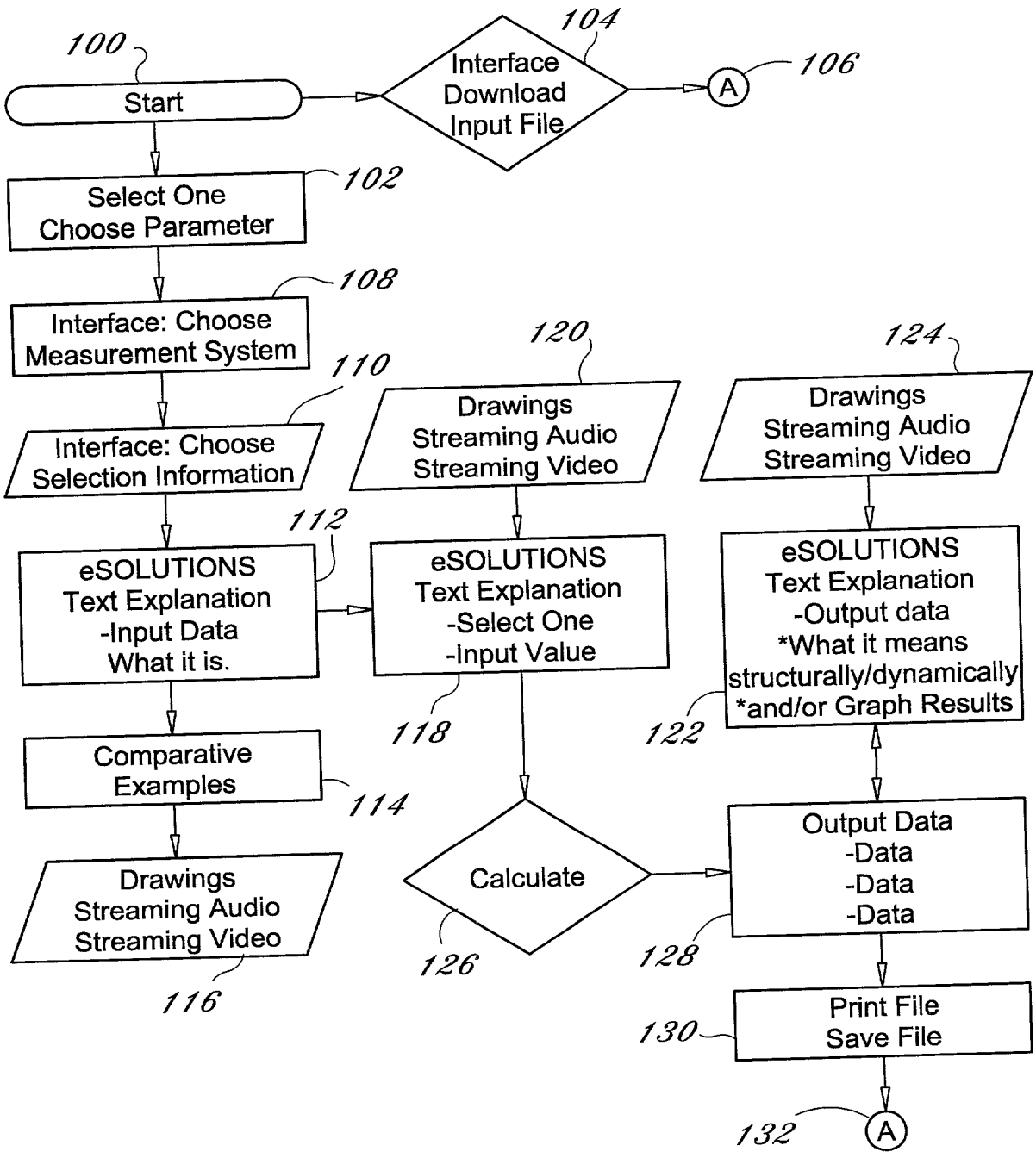

100
Start
104
Interface
Download
Input File
106
A
Select One
Choose Parameter
102
Interface: Choose
Measurement System
108
Interface: Choose
Selection Information
110
eSOLUTIONS
Text Explanation
-Input Data
What it is.
112
Comparative
Examples
114
Drawings
Streaming Audio
Streaming Video
116
120
Drawings
Streaming Audio
Streaming Video
eSOLUTIONS
Text Explanation
-Select One
-Input Value
118
Calculate
126
124
Drawings
Streaming Audio
Streaming Video
eSOLUTIONS
Text Explanation
-Output data
*What it means
structurally/dynamically
*and/or Graph Results
122
Output Data
-Data
-Data
-Data
128
Print File
Save File
130
132
A

Fig. 1

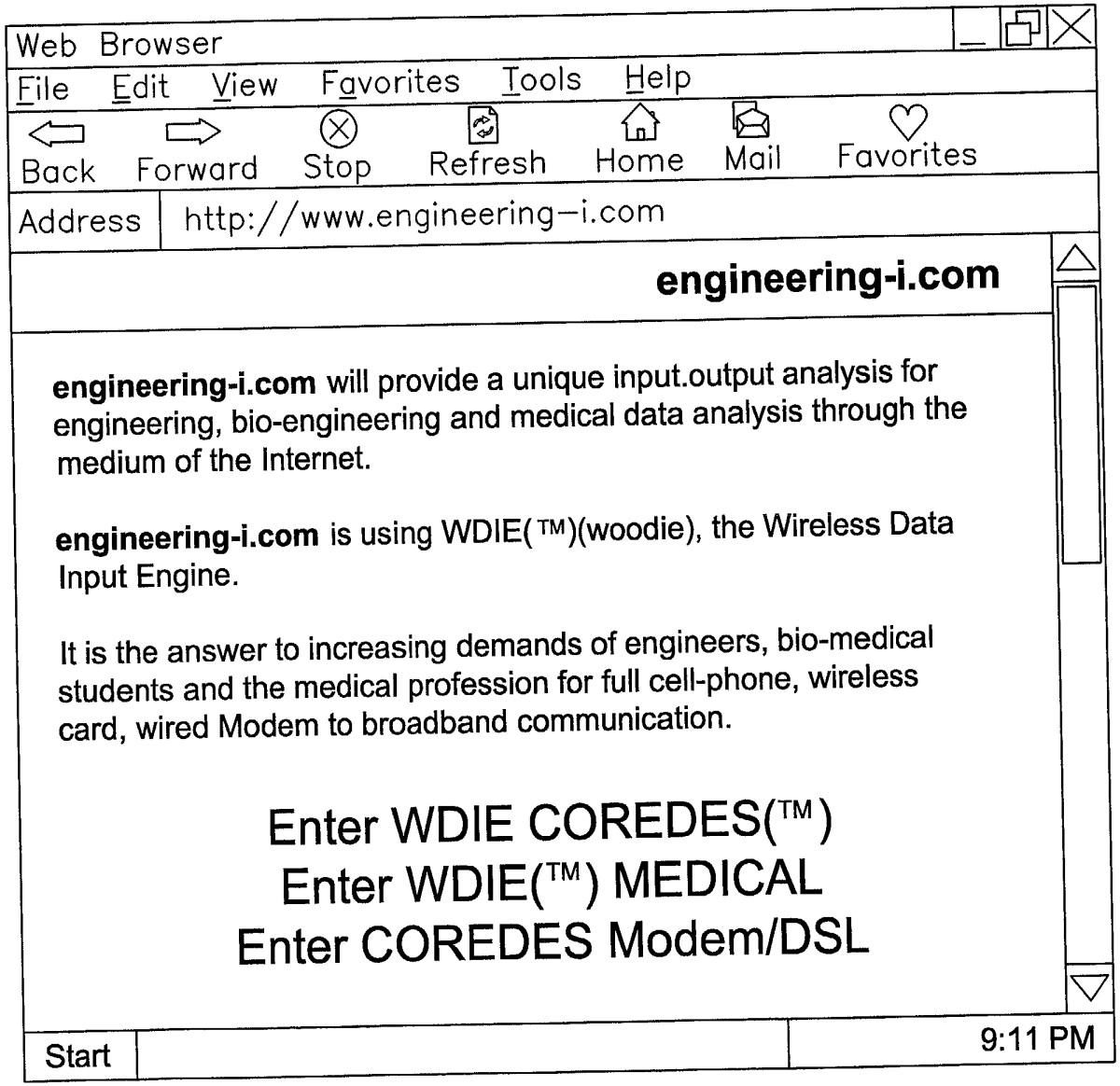


Fig. 2

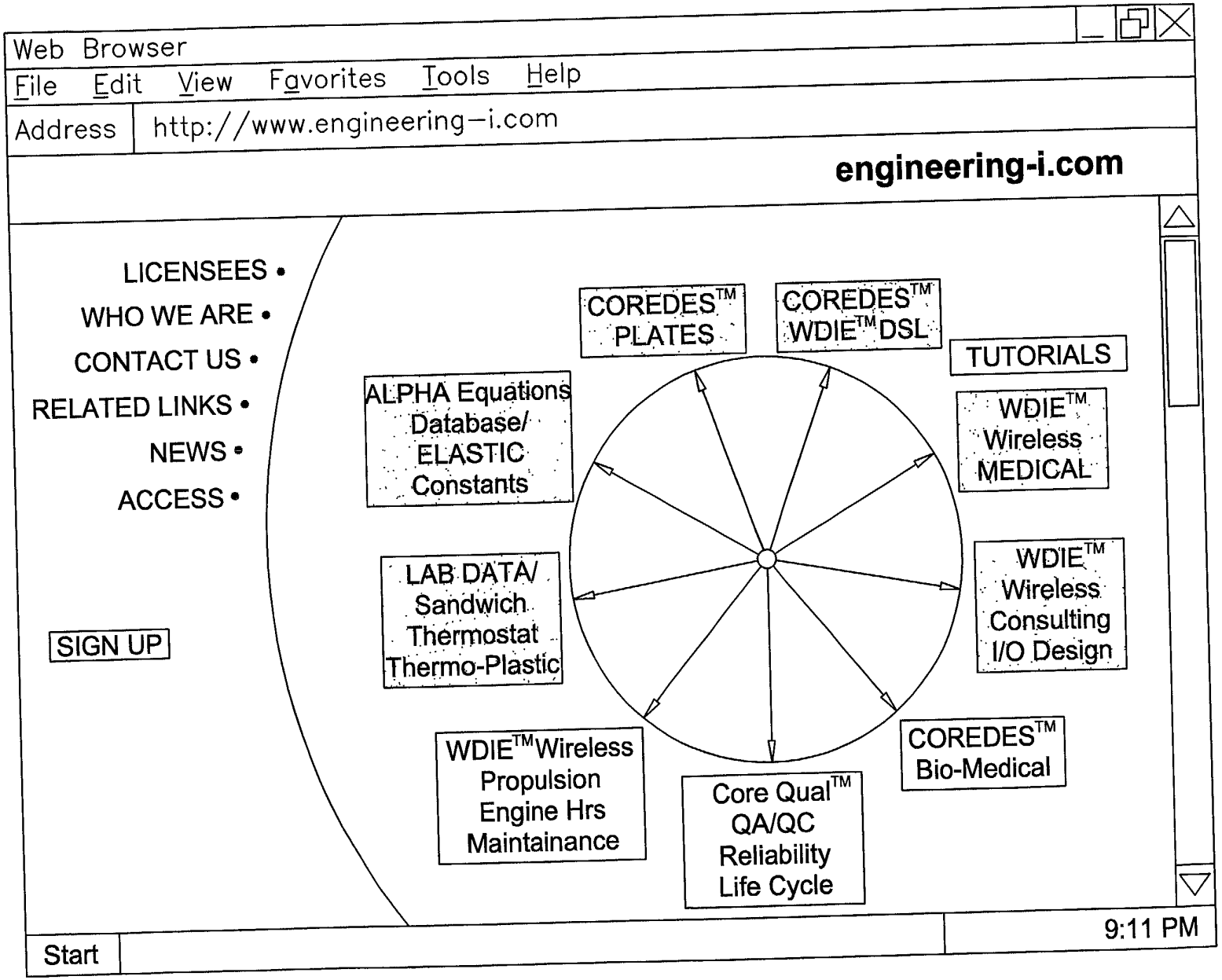

Web Browser
File Edit View Favorites Tools Help
Address http://www.engineering-i.com
engineering-i.com
LICENSEES •
WHO WE ARE •
CONTACT US •
RELATED LINKS •
NEWS •
ACCESS •
SIGN UP
COREDES™ PLATES
COREDES™ WDIE™ DSL
TUTORIALS
ALPHA Equations Database/ ELASTIC Constants
WDIE™ Wireless MEDICAL
LAB DATA/ Sandwich Thermostat Thermo-Plastic
WDIE™ Wireless Consulting I/O Design
WDIE™ Wireless Propulsion Engine Hrs Maintainance
COREDES™ Bio-Medical
Core Qual™ QA/QC Reliability Life Cycle
Start
9:11 PM

Fig. 3

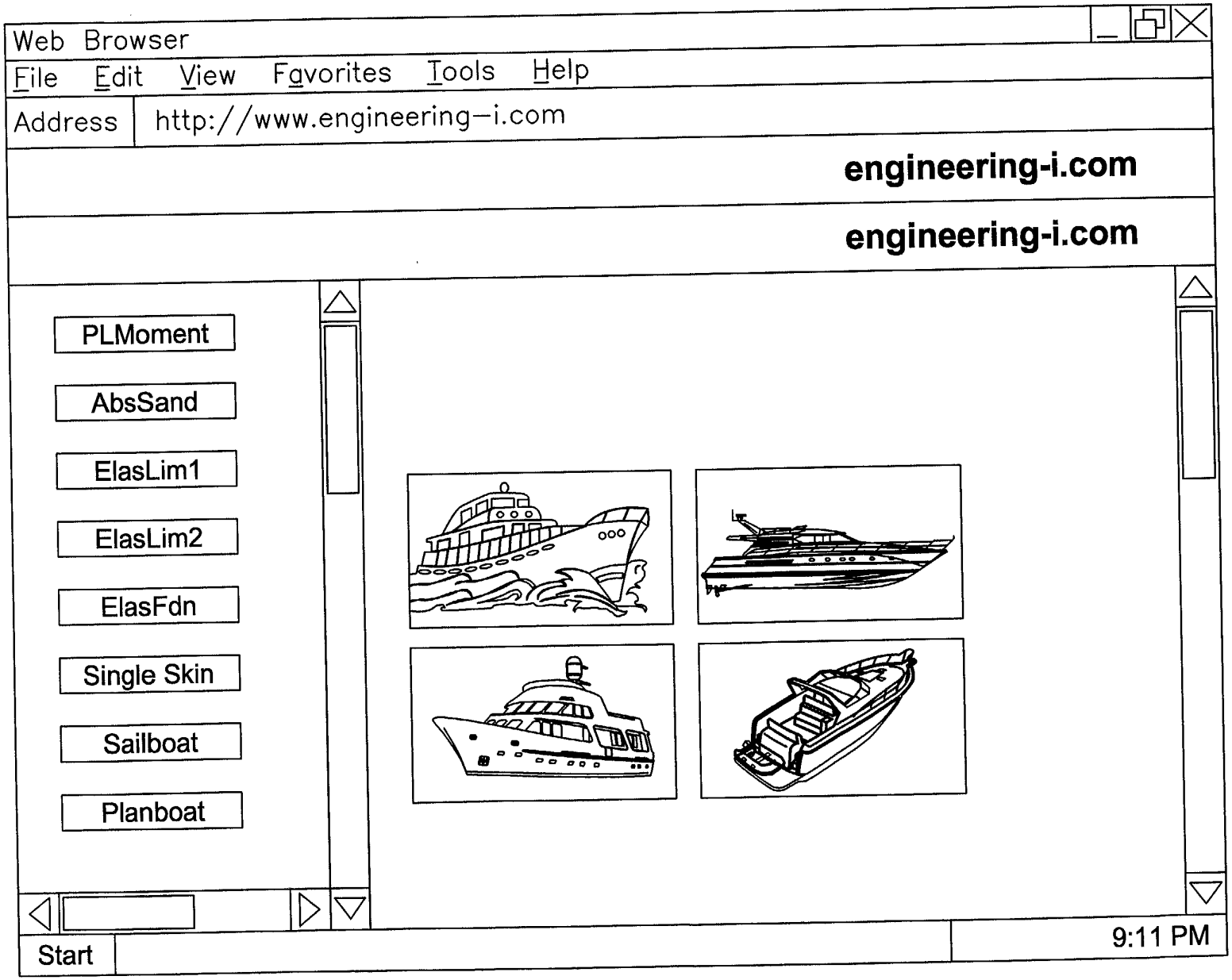


Fig. 4

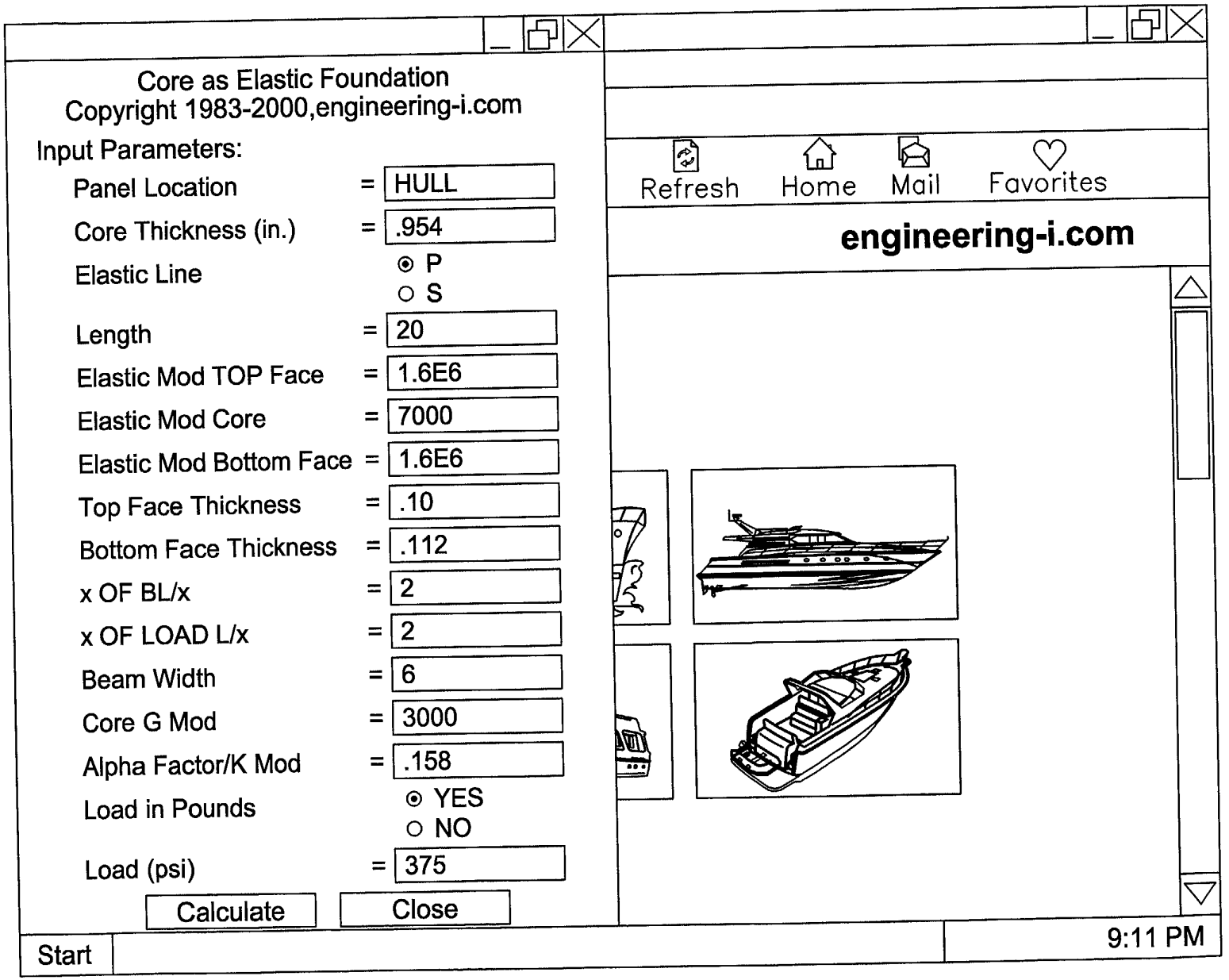

Core as Elastic Foundation
Copyright 1983-2000,engineering-i.com
Input Parameters:
Panel Location = HULL
Core Thickness (in.) = .954
Elastic Line
P
S
Length = 20
Elastic Mod TOP Face = 1.6E6
Elastic Mod Core = 7000
Elastic Mod Bottom Face = 1.6E6
Top Face Thickness = .10
Bottom Face Thickness = .112
x OF BL/x = 2
x OF LOAD L/x = 2
Beam Width = 6
Core G Mod = 3000
Alpha Factor/K Mod = .158
Load in Pounds
YES
NO
Load (psi) = 375
Calculate
Close
Refresh
Home
Mail
Favorites
engineering-i.com
Start
9:11 PM

Fig. 5

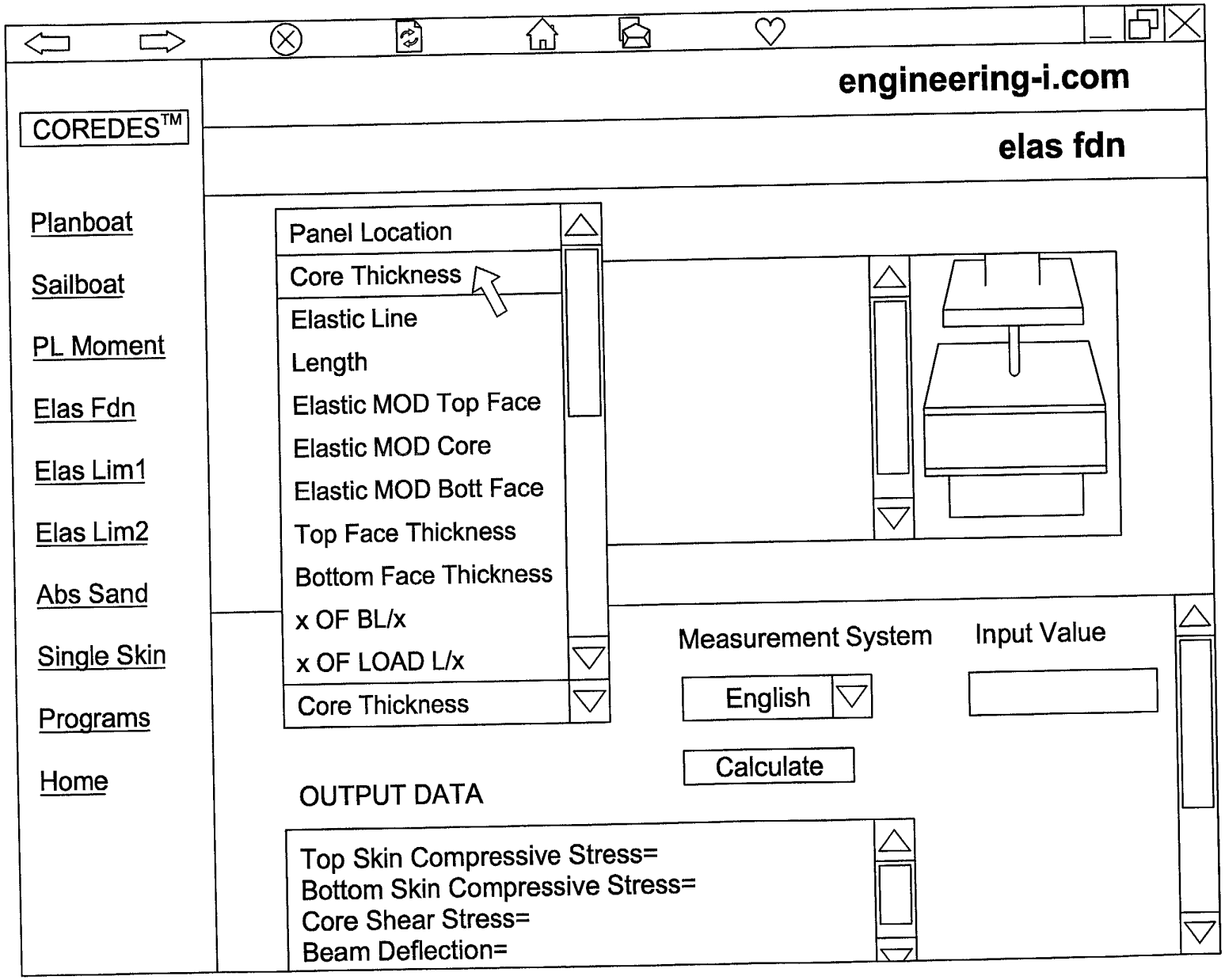

engineering-i.com
elas fdn
COREDES™
Planboat
Sailboat
PL Moment
Elas Fdn
Elas Lim1
Elas Lim2
Abs Sand
Single Skin
Programs
Home
Panel Location
Core Thickness
Elastic Line
Length
Elastic MOD Top Face
Elastic MOD Core
Elastic MOD Bott Face
Top Face Thickness
Bottom Face Thickness
x OF BL/x
x OF LOAD L/x
Core Thickness
Measurement System
English
Input Value
Calculate
OUTPUT DATA
Top Skin Compressive Stress=
Bottom Skin Compressive Stress=
Core Shear Stress=
Beam Deflection=

Fig. 6

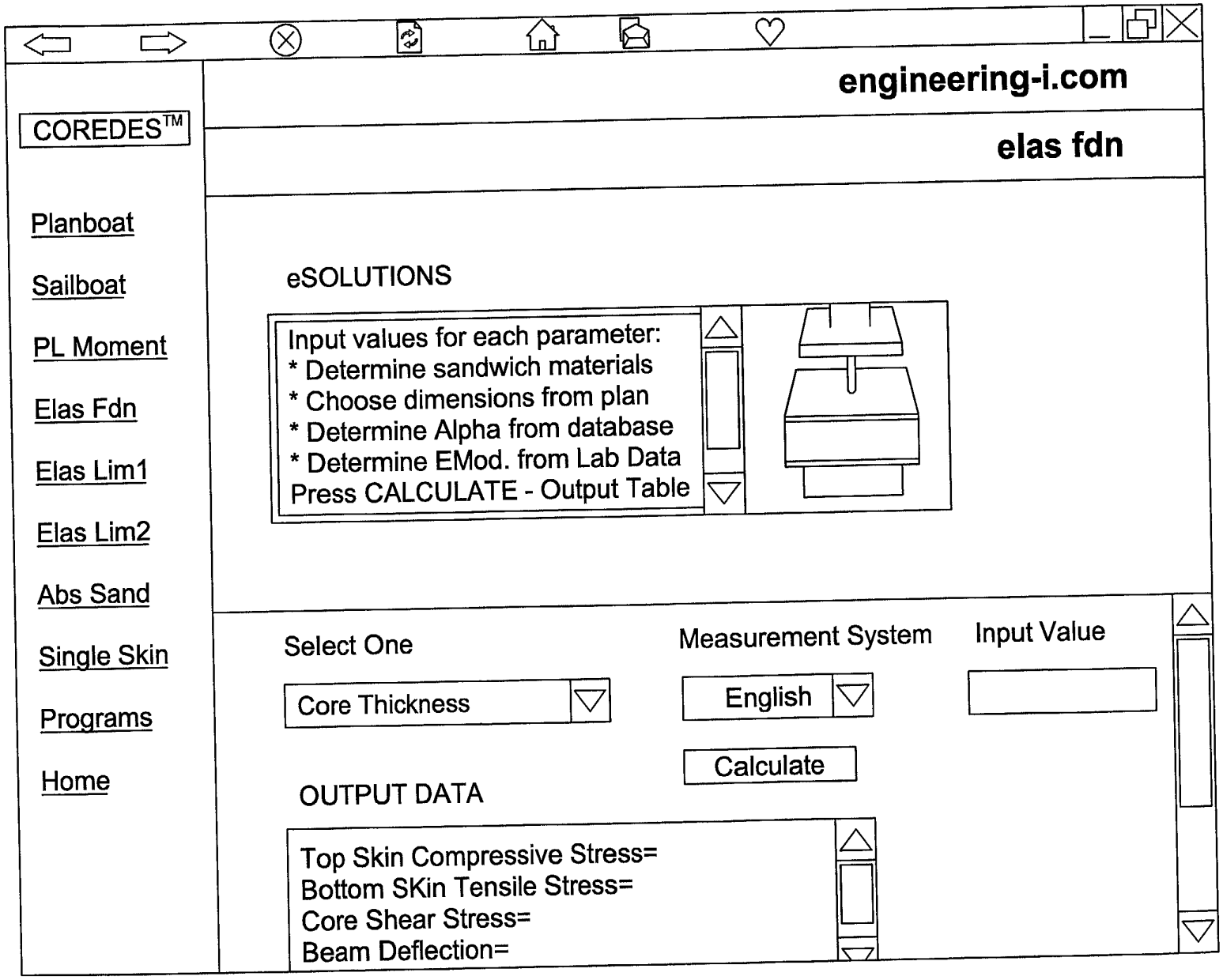
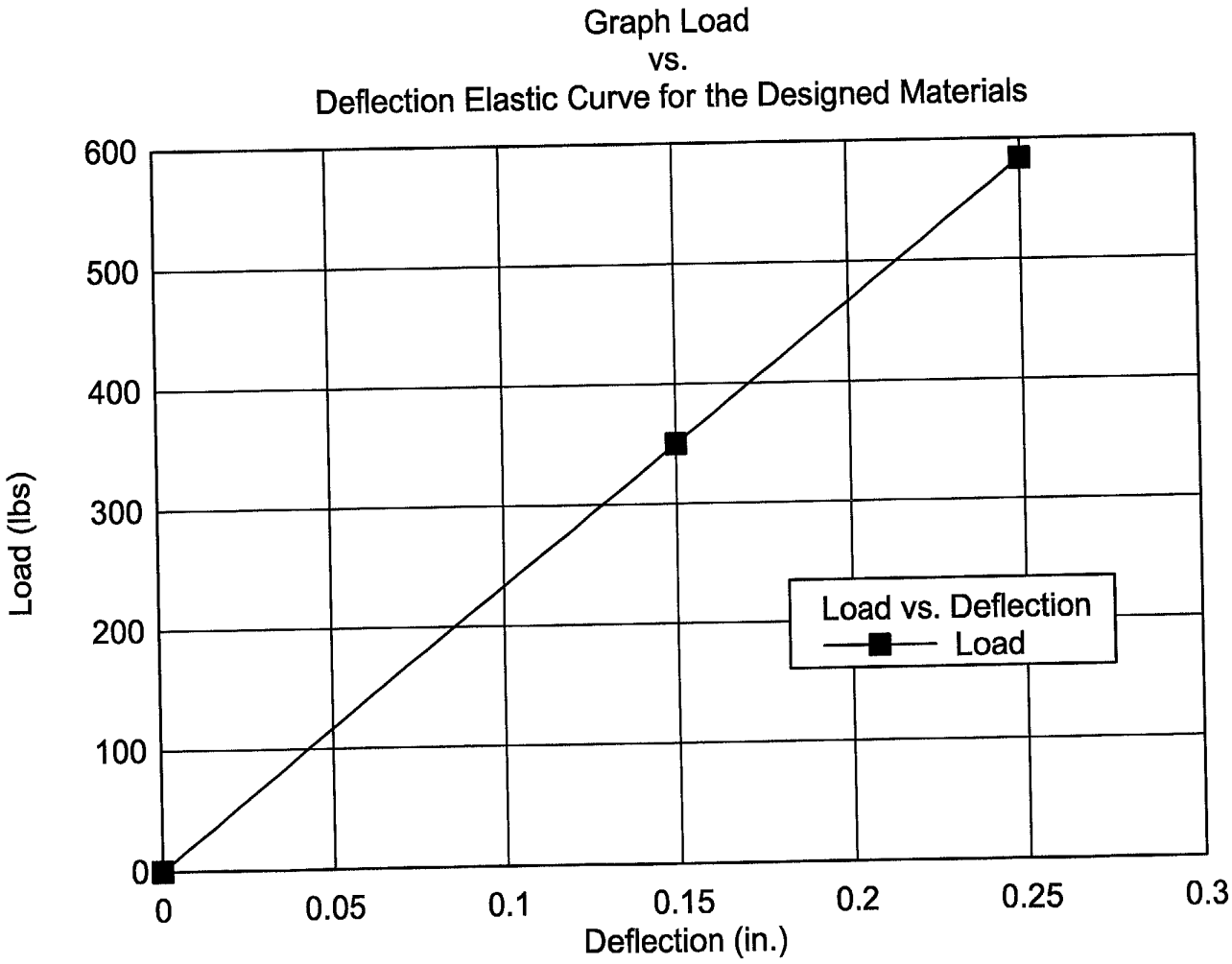

engineering-i.com
elas fdn
COREDES™
Planboat
Sailboat
PL Moment
Elas Fdn
Elas Lim1
Elas Lim2
Abs Sand
Single Skin
Programs
Home
eSOLUTIONS
Input values for each parameter:
* Determine sandwich materials
* Choose dimensions from plan
* Determine Alpha from database
* Determine EMod. from Lab Data
Press CALCULATE - Output Table
Select One
Core Thickness
Measurement System
English
Input Value
Calculate
OUTPUT DATA
Top Skin Compressive Stress=
Bottom SKin Tensile Stress=
Core Shear Stress=
Beam Deflection=

Fig. 7



Note: When compressive stress is plotted, the values for the elastic limits can be drawn on this curve.

Fig. 8

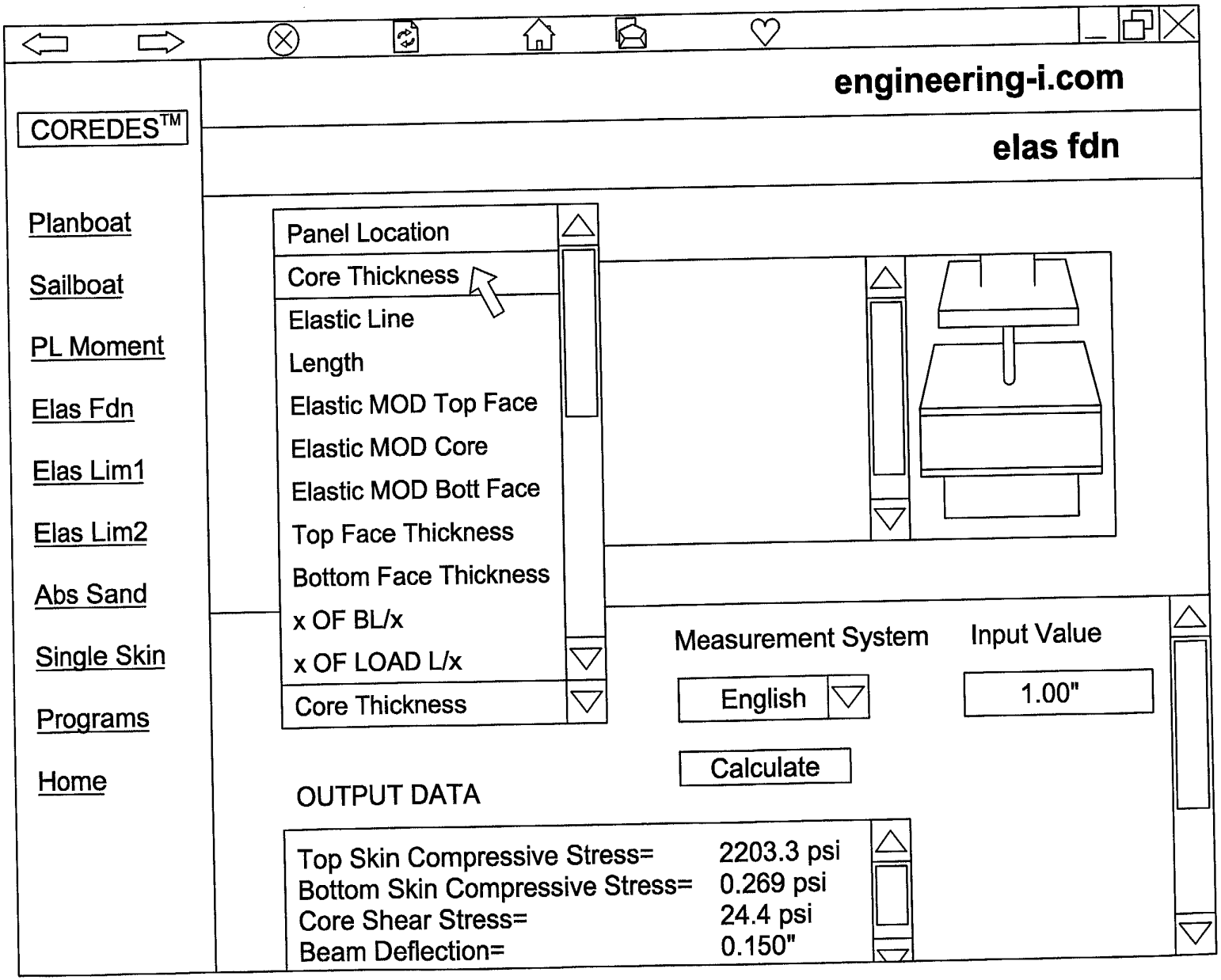

engineering-i.com
COREDES™
elas fdn
Planboat
Sailboat
PL Moment
Elas Fdn
Elas Lim1
Elas Lim2
Abs Sand
Single Skin
Programs
Home
Panel Location
Core Thickness
Elastic Line
Length
Elastic MOD Top Face
Elastic MOD Core
Elastic MOD Bott Face
Top Face Thickness
Bottom Face Thickness
x OF BL/x
x OF LOAD L/x
Core Thickness
Measurement System
English
Input Value
1.00"
Calculate
OUTPUT DATA
Top Skin Compressive Stress= 2203.3 psi
Bottom Skin Compressive Stress= 0.269 psi
Core Shear Stress= 24.4 psi
Beam Deflection= 0.150"

Fig. 9

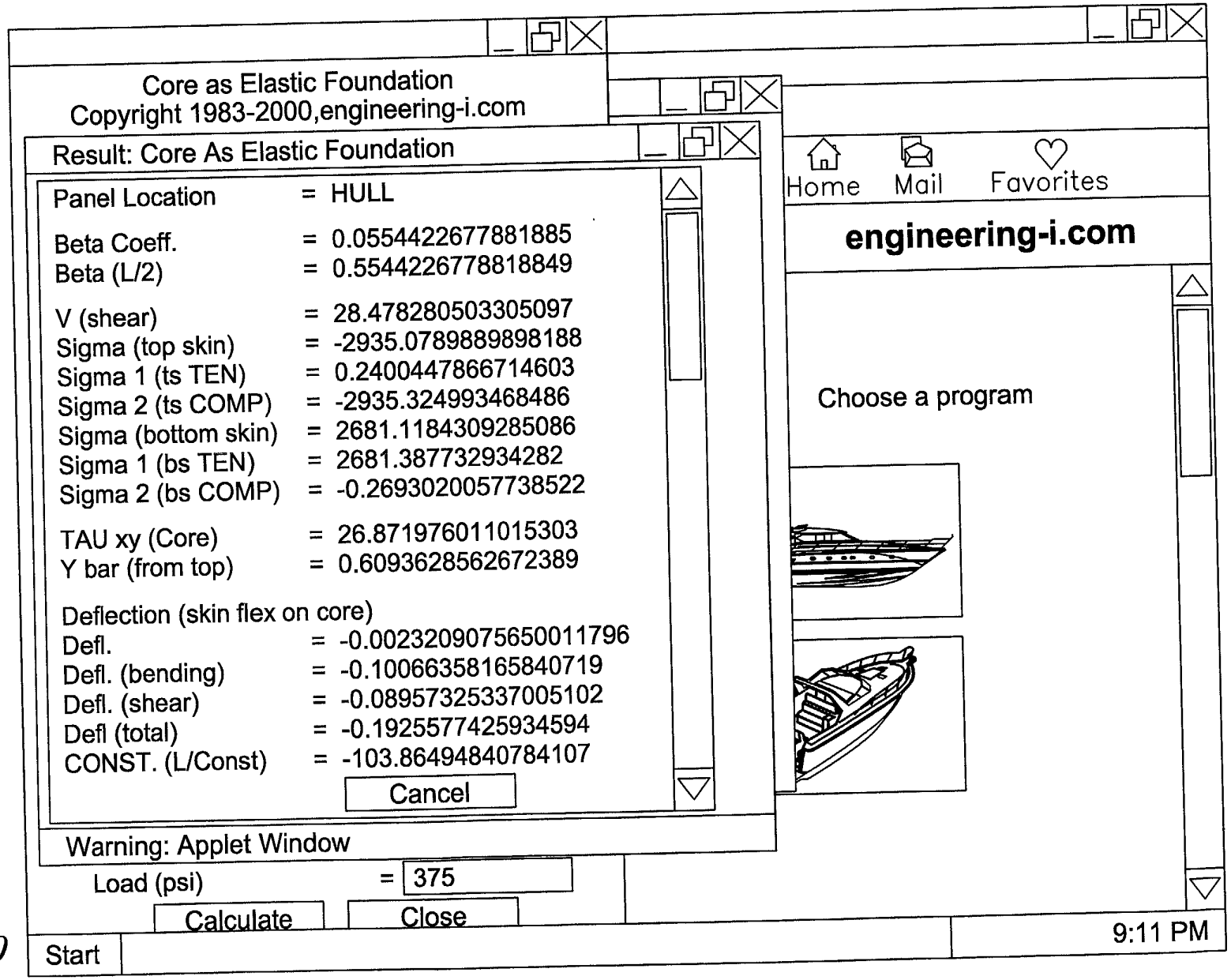
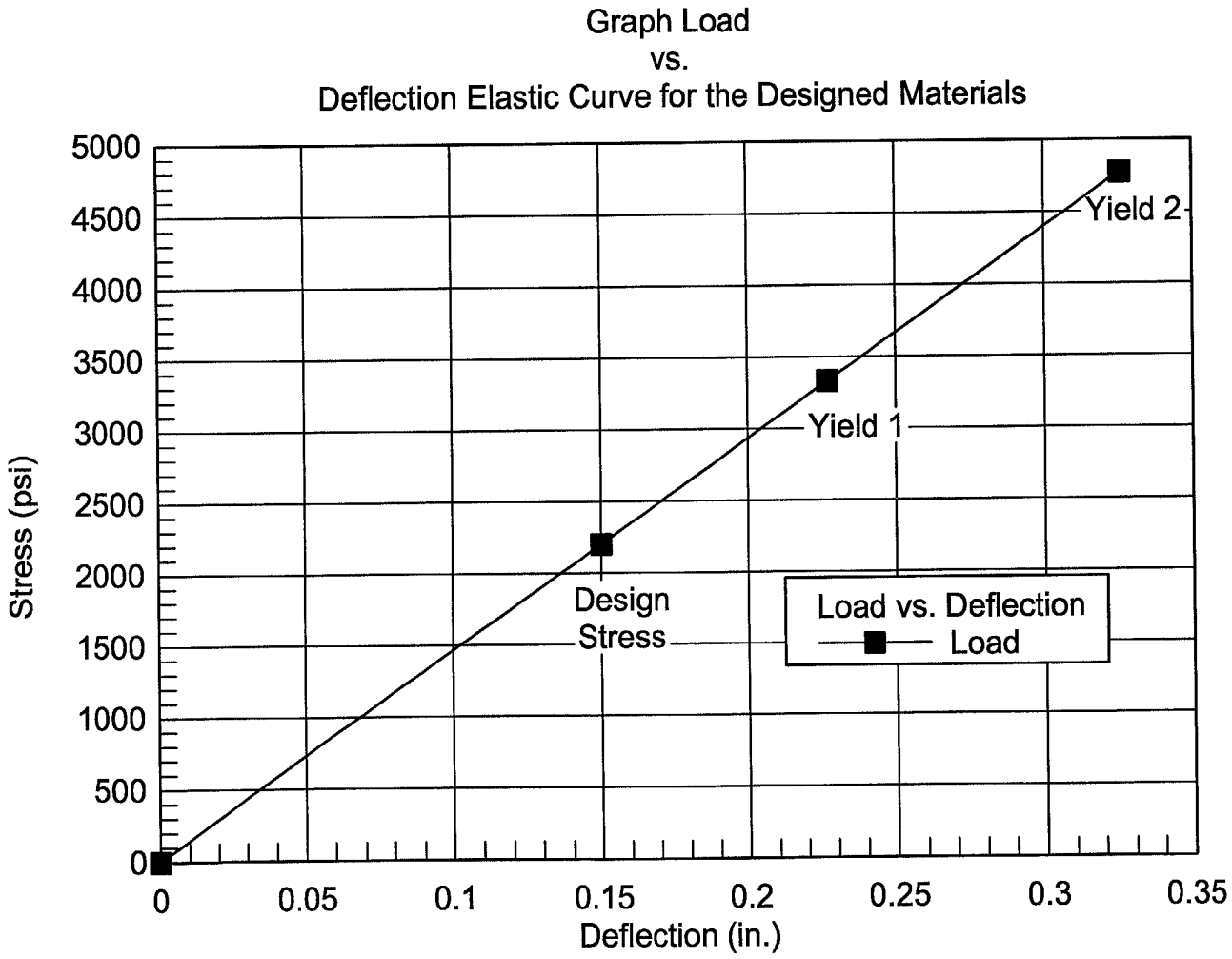

Core as Elastic Foundation
Copyright 1983-2000,engineering-i.com
Result: Core As Elastic Foundation
Panel Location = HULL
Beta Coeff. = 0.0554422677881885
Beta (L/2) = 0.5544226778818849
V (shear) = 28.478280503305097
Sigma (top skin) = -2935.0789889898188
Sigma 1 (ts TEN) = 0.2400447866714603
Sigma 2 (ts COMP) = -2935.324993468486
Sigma (bottom skin) = 2681.1184309285086
Sigma 1 (bs TEN) = 2681.387732934282
Sigma 2 (bs COMP) = -0.2693020057738522
TAU xy (Core) = 26.871976011015303
Y bar (from top) = 0.6093628562672389
Deflection (skin flex on core)
Defl. = -0.0023209075650011796
Defl. (bending) = -0.10066358165840719
Defl. (shear) = -0.08957325337005102
Defl (total) = -0.1925577425934594
CONST. (L/Const) = -103.86494840784107
Cancel
Warning: Applet Window
Load (psi) = 375
Calculate
Close
Home
Mail
Favorites
engineering-i.com
Choose a program
Start
9:11 PM

Fig. 10



Note: Yield 1 is the primary stress limit, Yield 2 is the limit of the design regime.
The Design stress has a Factor of Safety of 2.22 on stress at Yield 2.

Fig. 11

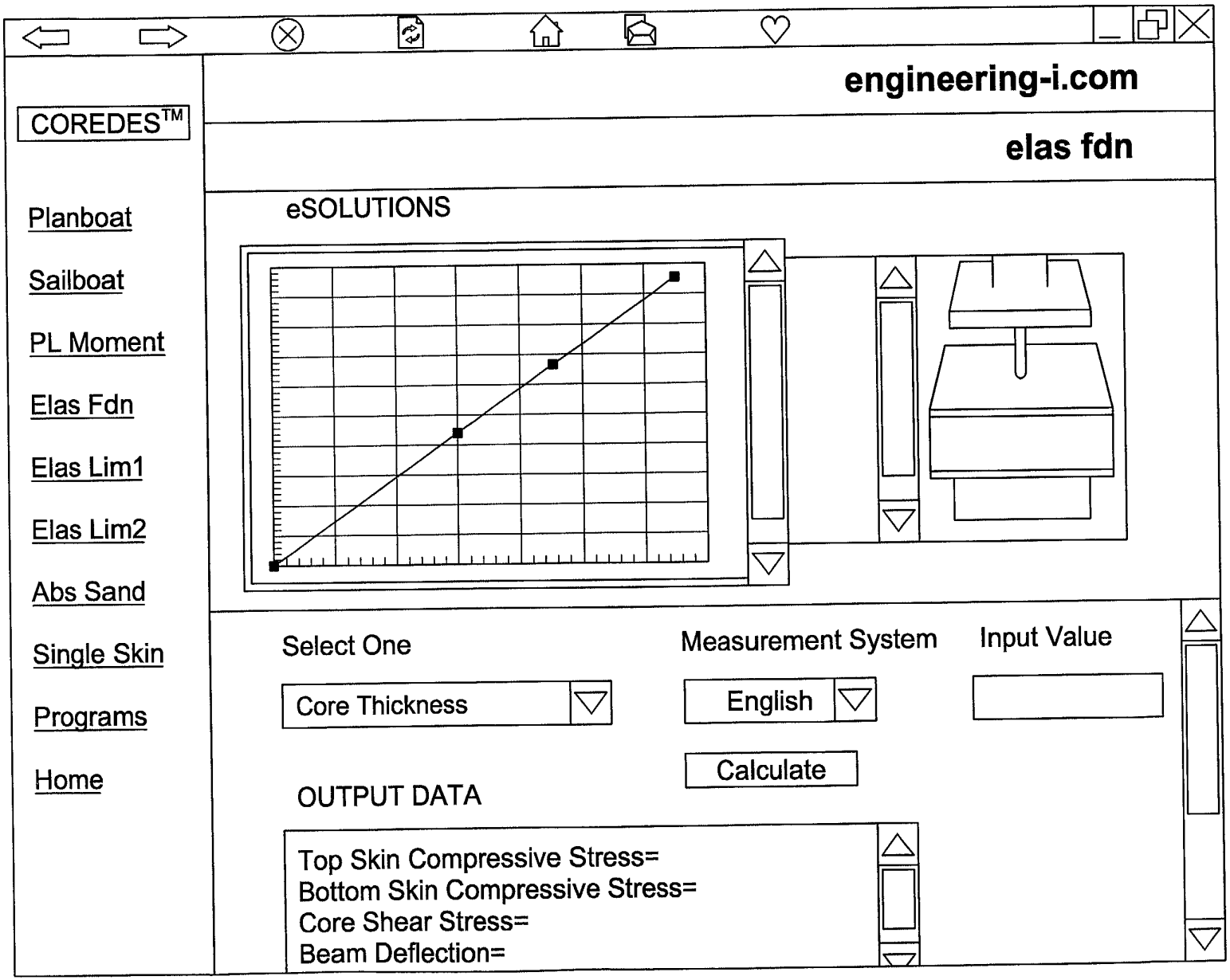

engineering-i.com
elas fdn
COREDES™
Planboat
Sailboat
PL Moment
Elas Fdn
Elas Lim1
Elas Lim2
Abs Sand
Single Skin
Programs
Home
eSOLUTIONS
Select One
Core Thickness
Measurement System
English
Input Value
Calculate
OUTPUT DATA
Top Skin Compressive Stress=
Bottom Skin Compressive Stress=
Core Shear Stress=
Beam Deflection=

Fig. 12

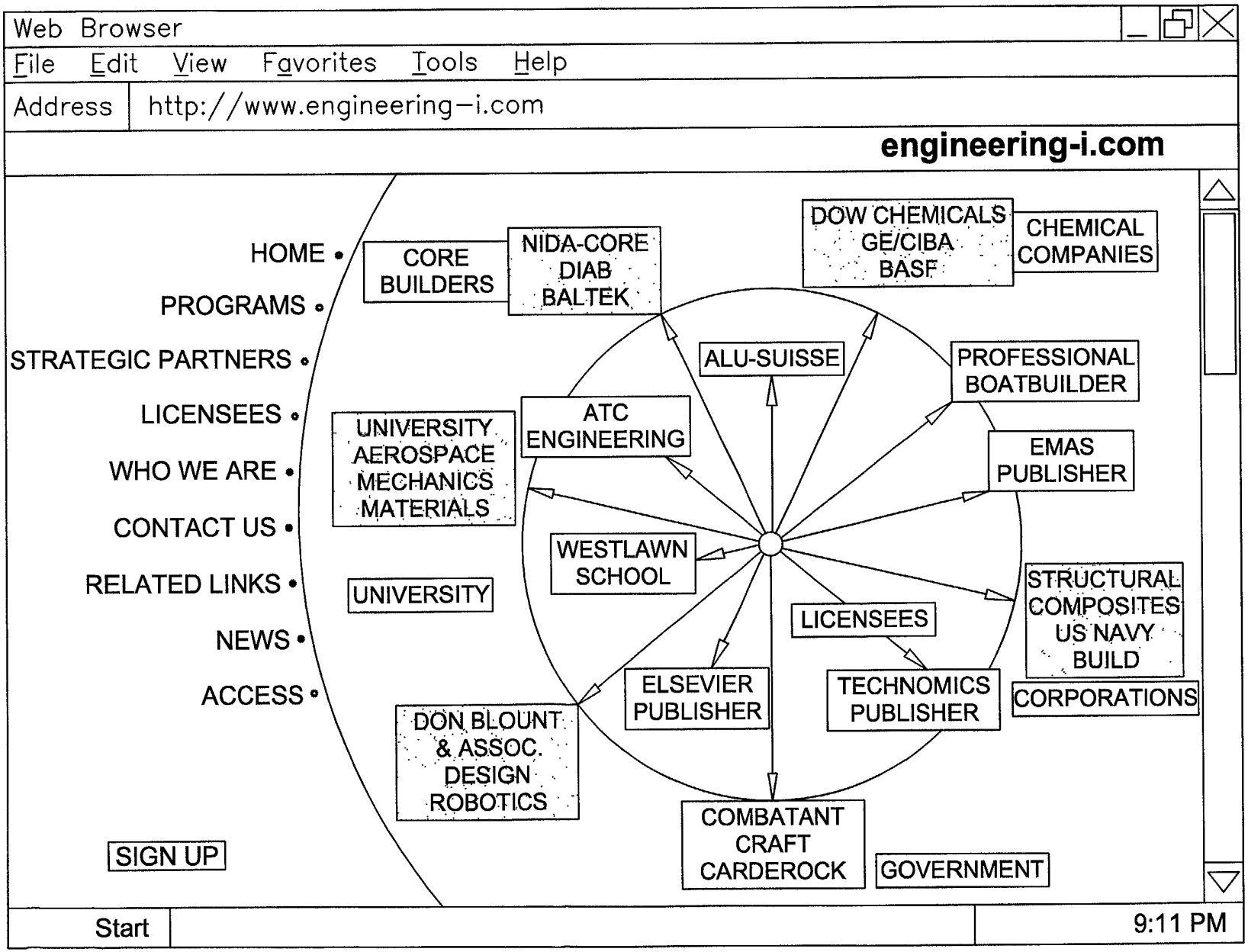


Fig. 13

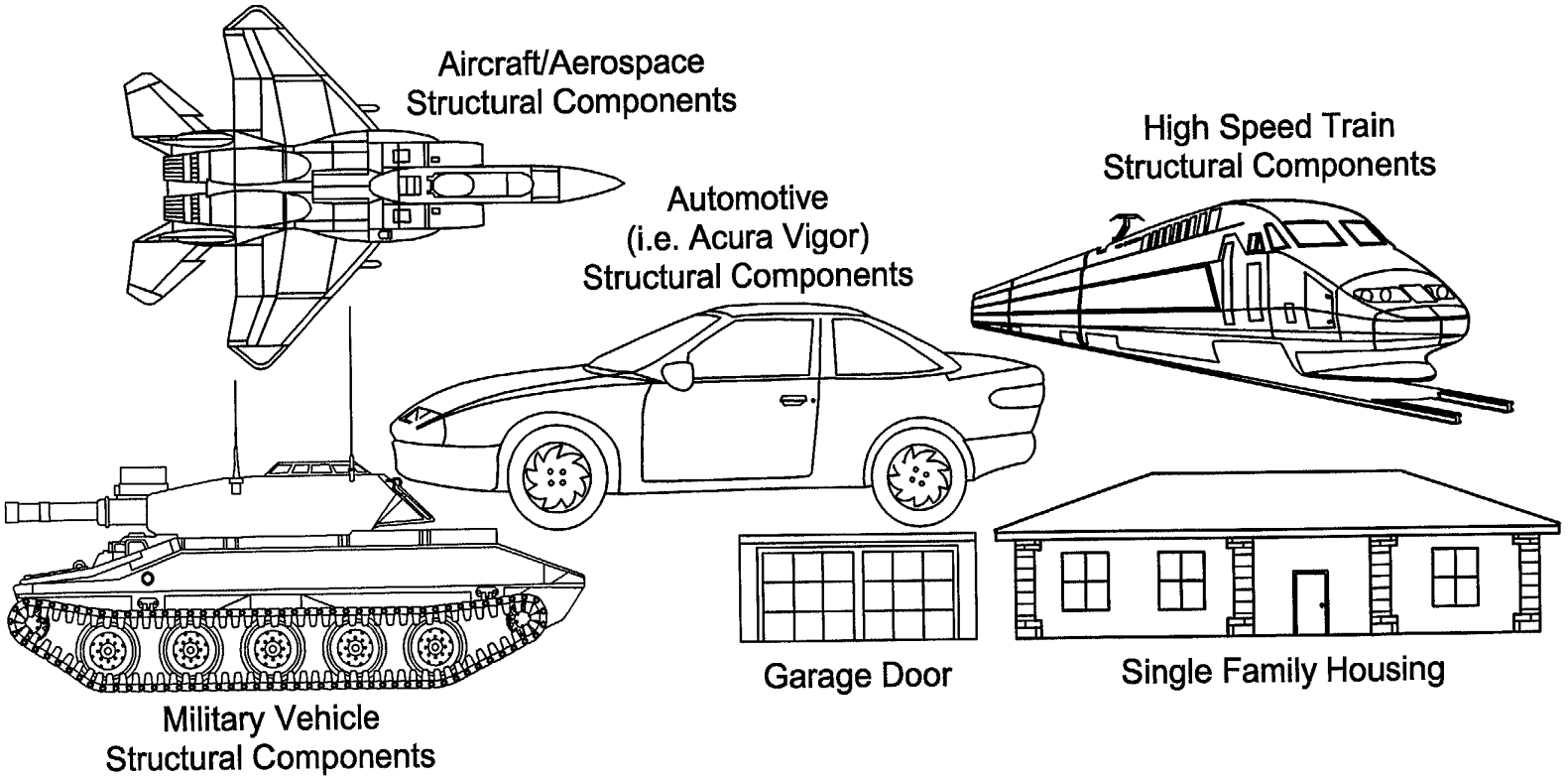

Aircraft/Aerospace
Structural Components
Automotive
(i.e. Acura Vigor)
Structural Components
High Speed Train
Structural Components
Military Vehicle
Structural Components
Garage Door
Single Family Housing

Fig. 14